Chapter II - Forest-wide Management Area Direction

Introduction

The direction in this chapter establishes the management Standards and Guidelines for the Forests. This direction includes goals, objectives, desired future conditions and management prescriptions and their associated Standards and Guidelines.

Additional Standards and Guidelines are identified for individual management areas in Chapter III - Management Area Direction.

Table II-1 describes management areas on the Huron-Manistee National Forests.

Table II-1. Management Area Descriptions.

Management Area	Title	Description
2.1	Roaded Natural Rolling Plains and Morainal Hills	Management activities provide high volumes of quality hardwood timber products and firewood with special consideration for enhancing wildlife habitats. Emphasis is given to managing grouse, deer and wildlife emphasis areas and fish habitat. A broad variety of recreational opportunities is available and visual diversity is high.
4.2	Roaded Natural Sandy Plains and Hills	Management activities enhance and increase the variety of wildlife habitats with emphasis given to managing deer, grouse and Kirtland's warbler essential habitat. High volumes of timber products are produced. Emphasis includes reducing life-threatening and property-damaging wildfire potential and providing a variety of recreational opportunities.
4.3	Roaded Natural Wetlands	Management activities provide a variety of forest views and scenes and recreational experiences in a primarily motorized recreational environment. Fish and wildlife are abundant, and efforts are made to increase and enhance various habitats. Emphasis is given to managing deer, grouse and wildlife emphasis areas.
4.4	Rural	Management activities provide recreational opportunities, sources of firewood close to users, and moderate to high volumes of softwood timber products. Wildlife management is coordinated with adjacent non-National Forest System land management with emphasis on deer, grouse and other wildlife. Some small blocks will be managed to protect isolated, essential areas for endangered, threatened or sensitive species.

Table II-1. Management Area Descriptions (Continued).

5.1	Wilderness	Management activities of Congressionally-designated Wilderness provide for protection and enhancement of wilderness characteristics and values. Primitive or semiprimitive, non-mechanized recreational opportunities occur in a natural environment emphasizing solitude. Recreational opportunities could include backpacking, hiking, camping, canoeing, hunting, fishing, cross-country skiing, snowshoeing and other nonmotorized activities.
6.1	Semiprimitive Nonmotorized Areas	Management activities in these areas provide for semiprimitive, nonmotorized recreational experiences. Emphasis is placed on reducing life-threatening and property-damaging wildfire potential. Consideration also will be given to providing habitat diversity.
6.2	Semiprimitive Motorized Areas	Management activities provide for semiprimitive, motorized recreational experiences. Consideration also will be given to providing habitat diversity.
7.1	Concentrated Recreation Areas	Management activities provide for a quality recreation experience.
8.1	Wild and Scenic Rivers	Management activities provide for Wild and Scenic River attributes and values.
8.2	Research Natural Areas	Management activities provide for non-destructive research, education and ecological representation.
8.3	Experimental Forests	Management activities provide for forest and biological research.
8.4	Special Areas	Management activities provide for management of nationally designated areas such as monuments and flower sanctuaries.
9.1	Candidate Research Natural Areas	Lands in holding for candidate Research Natural Areas until establishment record and environmental documentation is completed for designation. Management activities provide for Research Natural Area attributes and values.
9.2	Wild and Scenic Study Rivers	Lands in holding until studies and environmental documentation for designation are completed. Management activities provide for the protection of Wild and Scenic River attributes and values.

Maps of Forest-wide Management Areas:

See the enclosed Forests' maps for a display of the management area locations on the Huron-Manistee National Forests.

Forest-wide Goals and Objectives and Desired Future Condition:

Goals and Objectives:

Health and Safety:

- Suppress wildfires using an appropriate management response, in a manner compatible with Management Area objectives. Prevention, pre-suppression and suppression activities will be based on analysis of past fire occurrence, fire intensities and values at risk.
- Encourage adequate fire prevention, fire-safe construction and presuppression activities on private lands in wildland/urban interface fire prone areas.
- Fire suppression activities should be the least impacting to the environment while providing for safety, but still achieve the objectives of fire suppression.
- Suppress fires occurring on private lands inside the Forests' fire protection boundary as defined under established agreements.
- Create agreements for fire detection and suppression on National Forest System lands with cooperating firefighting agencies to define suppression actions commensurate with established resource management prescriptions.
- Fire use is suitable on National Forest System lands. Fire use will, to the extent possible, mimic natural processes to accomplish resource objectives, while protecting wilderness values and cultural, historical and developed resources.
- Implement fuels reduction and fuelbreak projects where conditions warrant for the protection of life, property and safety. High-risk areas adjacent to private land will receive treatment priority.
- Provide for the protection of National Forest System lands and for the property and safety of users.
- Provide for Law Enforcement and compliance patrols based on user activity and resource protection needs.
- Maintain a transportation system that meets health and safety, resource and administrative needs.

Public Relations and Partnerships:

- Work to achieve informed public consent during development and implementation of land and resource management plans and programs.
- Through information programs, explain the correlation of resource management direction and activities with public interests and concerns. Design programs and information based on audience analyses as well as land and resource needs.
- Cooperate with and encourage agencies, tribes, states, counties and other partners in education and outreach.
- Implement a public information and education program to explain areas of special significance in coordination with other public and private organizations to reduce the number, intensity and cost of conflict-producing and resource-damaging situations.
- Work with affected American Indian tribes in a government-to-government relationship.

Public Relations and Partnerships (Continued):

- Use a combination of personal contacts, brochures, maps and informational signing to inform and educate users about forest management.
- Identify and publicize resource management opportunities that will help volunteer organizations, individuals and local communities enhance their self-sufficiency and social well-being.
- Integrate public involvement and forest management with regional and national objectives.
- Work to acquire public input and participation in a timely manner in developing programmatic and site-specific environmental resource management analyses.

Natural Resources:

- Monitor and evaluate effectiveness of management practices.
- Manage designated old growth across all management areas and vegetation classes emphasizing old growth characteristics.
- Integrate the Scenery Management System (see Appendix F-Glossary for definitions) into project-level planning.
- Meet species viability needs, achieve fire hazard reduction, and accomplish fiber production from regulated (Allowable Sale Quantity) and non-regulated (non-chargeable) forest lands primarily through timber harvest.
- Monitor wildlife responses to management practices using identified Management Indicator Species to determine the effects of management practices on wildlife and fish populations.
- Reduce non-native invasive species infestations and prevent new invasive species from becoming established, when possible.
- Wildlife and fisheries habitats and plant communities shall be managed to maintain viable populations of existing native and desired non-native species.
- Maintain or improve the populations of endangered, threatened or sensitive species or communities.
- Manage the 5-mile (8 km) radius around Tippy Dam to benefit the Indiana bat.
- Restore and maintain savannahs, prairies, dry grasslands, mesic grasslands, shrub/scrub and oak-pine barrens in areas where they were known to previously occur, to provide for habitat diversity and to meet species viability needs.
- Utilize prescribed fire to meet management direction as appropriate for the ecosystems involved.
- Encourage cooperation and coordination with responsible government land and resource management agencies, tribes and partners in program management such as recreation; Wild and Scenic River and State Natural Rivers; minerals; air quality; law enforcement, fire; water quality; endangered, threatened, and sensitive species; non-native invasive species and insect and disease.

Natural Resources (Continued):

- Cooperate with individuals; organizations and local, state, Tribal and federal governments to promote ecosystem health and sustainability across landscapes.
- Manage riparian areas consistent with resource conditions, management objectives and designated water use. Reduce nonpoint pollution to the maximum extent feasible and protect the hydrologic functions of watersheds, including both surface and groundwater systems.
- Manage vegetation within the Streamside Management Zone for late seral stages through natural successional processes emphasizing the retention of a sufficient number of trees to protect water quality and provide a source of recruitment for large wood to the adjacent aquatic system.
- Monitor and measure effects at the 5^{th} or 6^{th} level watershed.
- Manage oligotrophic lakes with 100 percent of National Forest ownership so as not to change the trophic status; allow no more than a 10-percent decline in trophic status in other oligotrophic lakes and lakes with a mesotrophic status; lakes with a eutrophic status will maintain fishable and swimmable waters.
- In cooperation with permittees, favor selective treatment of vegetation in transmission line rights-of-way to improve wildlife forage.
- National Forest System lands will be available for non-surface-disturbing minerals exploration and extraction.
- Mineral exploration and development occurs and is consistent with management area direction and subject to valid existing rights. Appropriate restrictions are placed in leases to protect the environment.
- Protect the rights of the federal government, encourage inventory and development of federal minerals, respect state and private mineral rights, and ensure operators take reasonable and prudent measures to prevent unnecessary disturbance to the surface.
- Minimize or prevent the development of pest problems. Where pest problems are unavoidable, select the solution which provides the most benefits while meeting control objectives.
- Land adjustments (purchase or exchange) will consider only the interest needed to achieve land management objectives and must satisfy one or more of the following purposes: (1) accomplish objectives of public law or regulation; (2) obtain land needed to meet demands for National Forest System resources; (3) result in more efficient land ownership patterns as indicated by reduced resource management costs.
- The priority for land acquisition is to purchase lands or partial interests needed to protect endangered, threatened, and sensitive species and areas possessing unique natural environments or significant cultural resources.
- Reduce the net miles of roads on the Forests by emphasizing closures of roads determined to be non-essential for resource management.
- Locate administrative boundaries of recreation areas and place informative signs describing appropriate activities for the area.
- Cooperate with local communities when considering site-specific proposals that would provide access to services in the local communities.
- Provide for a combination of motorized and nonmotorized recreation opportunities.

Natural Resources (Continued):

- Provide a variety of access opportunities for a range of user abilities consistent with management area direction and Standards and Guidelines.
- Design and manage trails for a primary seasonal use, to discourage conflicting uses. Prevent motorized and nonmotorized uses from occurring at the same time during any season of the year. Trails may also have secondary uses.
- Manage Off-Highway Vehicles, including snowmobiles, by designating trails or routes to minimize user conflicts and to provide for user satisfaction, resource protection and public health and safety.
- Emphasize levels 1, 2 and 3 facilities for developed and dispersed recreation.
- Manage National Recreation Trails, Byways, Rivers, and Wildernesses in accordance with the commitments associated with their designation.
- Integrate historical, environmental and cultural information into plans, assessments, analyses and decision documents, as appropriate.
- Emphasize and promote the use of carry-out methods of trash disposal.
- All management activities should meet or exceed the Scenic Integrity Objectives established for the Forests through the Scenery Management System.

Desired Future Condition:

- All management activities provide for safe conditions for the public and employees.
- Recreation management provided is compatible with the Recreation Opportunity Spectrum objectives.
- The North County National Scenic Trail is constructed and administered as a premier hiking and backpacking trail. The trail will highlight significant scenic, historic, natural and cultural qualities.
- Designated National Wild, Scenic, and Recreation Rivers are managed according to the management plan for the individual river.
- The total of early successional habitat less than or equal to 15 years, and open-land habitat, such as agricultural, urban development and roads, should generally not exceed 66 percent of the area within any 6^{th} level watershed on the forests. In most cases, 6^{th} level watersheds have an area up to 40,000 acres associated with a creek and tributary.
- Areas with unique character are protected.
- Prairies, savannahs, and oak-pine barrens have been restored and maintained on approximately 10,000 acres within old-growth areas.
- Maintain favorable conditions of water flow and quality. Management practices will not result in a long-term decline in water quality conditions.
- Indiana bat, Karner blue butterfly, bald eagle, Kirtland's warbler, piping plover and Pitcher's thistle are managed according to their recovery plans.
- Severe and moderately eroding streambanks are restored.
- Habitat needs of riparian-dependent species are met and that habitat is maintained, especially habitat for threatened, endangered and sensitive species.

- The cumulative amount of streamside stabilization over time does not exceed five percent of the total shoreline length of a river system within National Forest System boundaries.
- In-stream large wood meets objectives stated in Table II-2.

Table II-2. Desired Future Condition for Large Wood.

Stream Order	Number of Large Wood Structures per 300 Feet of Stream
1-2	6-9 (108-160 per mile)
3-4	3-6 (54-108 per mile)

- Vegetation Composition objectives for the end of the first decade are displayed in Table II-3.

Table II-3. Vegetation Composition Objectives (End of First Decade).

Vegetation Class	Huron National Forest	Manistee National Forest
	Percent	Percent
Aspen/Birch	16-22	10-16
Barrens and Savannahs	1-3	2-5
High-Site Oaks	5-11	15-21
Lowland Conifers	2-8	0-5
Lowland Hardwoods	1-4	4-10
Long-Lived Conifers	15-21	17-23
Low-Site Oaks	12-18	13-19
Northern Hardwoods	2-8	8-14
Openings	4-9	4-10
Short-Lived Conifers	18-24	2-8

Forest-wide Standards and Guidelines:

Standards and Guidelines define which management practices to follow to meet the intent of the various Management Prescriptions. The terms "Standards and Guidelines" are defined in the National Forest Management Act and implementing regulations. Standards are required actions to achieve goals, objectives and desired conditions; Guidelines are preferable or advisable actions to achieve goals, objectives and desired conditions.

The Standards and Guidelines provide the framework to guide activities on the Forests. Some Standards and Guidelines are detailed in nature and are subject to change as more information becomes available through implementation and monitoring. Chapter IV of this Forest Plan explains how the Forests will implement and monitor these requirements.

Standards and Guidelines for management activities in each Prescription Area follow the 19 major resource management categories. The numbering system corresponds to the Forest Service Manual system shown in Table II-4.

Table II-4. Forest Service Manual Numbering System.

Forest Service Manual	Subject
1600	Information Services
1900	Planning
2000	National Forest Resource Management (2080 Noxious Weed Management)
2100	Environmental Management
2200	Rangeland Management
2300	Recreation, Wilderness and Related Resource Management
2400	Timber Management
2500	Watershed and Air Management
2600	Wildlife, Fish and Sensitive Plant Habitat Management
2700	Special Uses Management
2800	Minerals and Geology
3400	Forest Pest Management
4000	Research and Development
5100	Fire Management
5300	Law Enforcement
5400	Landownership
7300	Buildings and Other Structures
7400	Public Health and Pollution Control Facilities
7700	Transportation System

The following Standards and Guidelines apply to all management areas on the Huron-Manistee National Forests. Additional Standards and Guidelines are displayed in Chapter III - Management Area Direction for individual management areas.

Standards are identified with an "S" and Guidelines are identified with a "G".

1600 INFORMATION SERVICES

- I Develop interpretive presentations and media according to industry and professional guidelines for quality and appropriateness. **G**
- II Provide accessible interpretive presentations, publications, displays, web sites and visual aids. **S**

1900 PLANNING

- I The Forest Supervisor may close areas and facilities immediately when motorized vehicles are causing or likely to cause considerable adverse effects or to address health and safety concerns. They will remain closed until those effects have been eliminated and measures implemented to prevent recurrence. **G**
- II Vegetation Management
  - A Regeneration and Maintenance of Vegetation
    - 1 When trees are cut to achieve timber production objectives, the timber cuttings shall be made in such a way as to assure that lands can be adequately restocked within five years after final harvest. **S**

2 Limit whole-tree removal to soils with sufficient nutrient content and nutrient storage capacity to support vegetation and to maintain soil productivity. **S**

3 Hardwood stands and prairies may be used as fuelbreaks. **G**

B Temporary openings created by the application of the even-aged silvicultural system will no longer be considered openings when the reestablished timber stand has reached a height that is greater than 20 percent of the height of surrounding vegetation. **G**

III Research Natural Areas

A Research Natural Areas will be managed according to Forest Service Manual 4063.3. "Protection and Management Standards." **S**

B Activities planned in areas adjoining a Research Natural Area will take into consideration the size, location and characteristics of the Research Natural Area so that adjacent activities would not have adverse effects on the Research Natural Area. **G**

IV Old Growth

A Old growth will be managed primarily by allowing natural processes to occur except in those areas where natural processes have been altered by humans. Other Standards and Guidelines apply in management areas 8.2 and 9.1. **G**

B Restoration treatments may include, but are not limited to, prescribed fire and mechanical treatments to meet the potential old-growth conditions, except in management area 5.1. **G**

1 A maximum of four restoration efforts will be allowed to create old-growth conditions. **G**

C Old growth may be maintained by practices that best meet the potential old-growth conditions. Practices may include, but are not limited to, prescribed fire and mechanical treatments. **G**

D Permit occasional collection of plants as sample/example specimens. **G**

E Roads, trails and utilities will use a minimal opening width necessary to allow safe passage and to meet design criteria. **G**

F Salvage operations in designated old-growth areas should only be considered when there is a major public safety or forest health threat. **G**

G Personal or commercial firewood permits will be prohibited in designated old-growth areas. **S**

2000 NATIONAL FOREST RESOURCE MANAGEMENT (Non-native Invasive Species)

I Maintain a Forest-wide list of non-native invasive plant and animal species of concern. **G**

II Identify infestations of non-native invasive plant and animal **G**

species at both project and Forest-wide levels.

III Use integrated pest management practices for prevention and control of non-native invasive plant and animal species appropriate to the management area. G

IV Prevention

A Require, where needed, vehicles and equipment likely to be transporting seed or propagules of noxious weeds and invasive species to be washed or cleaned before use on the Forests. G

B Encourage the use of certified weed-free forage and bedding for domestic animals brought on the Forests. G

C Maintain native plant communities as practical. When available, use local native species (genetically-appropriate) or nonpersistent non-native species in revegetation and restoration projects. G

D Inform public of known infestations by posting information at trailheads, developed sites or boat landings. G

V Control:

A Treat non-native invasive plant and animal species infestations using permissible, appropriate and effective methods, including manual, mechanical, fire, chemical and biological control methods. G

VI Utilize project materials including seed, mulch, soil and gravel that are free of seeds or other propagules of noxious weeds and invasive species. G

2100 ENVIRONMENTAL MANAGEMENT

I Coordinate with the State of Michigan to control impacts of air pollution to implement strategies needed to mitigate Forests' resource management activities. S

II Advise Regional Forester on potential effects of state redesignation proposals of airsheds. S

III Equipment used in management activities will have approved air pollution control devices. S

2200 RANGELAND MANAGEMENT

I Permit grazing when compatible with regulations and the management objectives for the area. G

II Regulate livestock access to water. G

III Permit hay cutting on existing forage areas when compatible with regulations and the management objectives for the area. G

IV Permit grazing to enhance visual, wildlife or public safety conditions when compatible with regulations and the management objectives for the area. G

2300 RECREATION, WILDERNESS AND RELATED RESOURCE MANAGEMENT

I Recreation management will be compatible with the Recreation Opportunity Spectrum objective of the area. G

II Post for designated uses and control access. G

III Do not permit camping inside a zone extending 200 feet back from the water's edge of any lake or river except at designated sites. G

IV Watercraft storage will be by permit only. S

V Provide signs for visitor safety, orientation, and information and to display regulations in conformance with Management Area direction. G

VI Recreation Construction

A Do not permit new recreation developments, other than reconstruction, within 660 feet of any seasonal or permanent residence. G

B Permit service access to recreation facilities, except in management areas 5.1, 8.2 and 9.1. G

C Sealed vault toilets will be the standard. Primitive toilets may be considered if environmentally feasible, except in management areas 5.1, 8.2 and 9.1 G

D The desired recreation development level on a scale of 1 = primitive to 5 = highly developed is shown in Table II-5. G

Table II-5. Desired Recreation Development Level.

Desired Recreation Development Level	Applicable Management Area
1 to 3	6.1, 6.2
2 to 4	2.1, 4.2, 4.3, 7.1, 8.1
3 to 4	4.4

E Developed recreation sites and areas will avoid essential and critical habitat. S

F Level 3 or higher recreational developments will not be constructed on National Forest System lands bordering lakes that have less than 50 percent National Forest System ownership except for trail or access purposes. G

VII Operation and maintenance of developed recreation sites.

A To the extent practical, eliminate safety hazards and remove hazard trees. G

B Prepare vegetative management plans for each developed site open to public use to ensure a safe and aesthetically pleasing setting. This guideline does not apply to management areas 5.1, 8.2 and 9.1. G

1 Complete such work to the approved standards described in the annual operation and maintenance plan. G

VIII Trails (Other than North Country National Scenic Trail)

A General Management

1 Avoid snowplowing of roads under Forest Service control from December 1 to March 31, when the G

road is part of a designated winter trail system.

2 Allow snowplowing of roads across the designated trail system. G

3 Emphasize volunteer and cooperative agreements and grants to construct, maintain and administer trail systems. G

4 Emphasize the use of loop trails for all but the North Country National Scenic Trail, Michigan Shore-to-Shore Trail and the Michigan Cycle Conservation Trail. G

5 Discourage dogs on cross-country ski trails. G

6 Trails may be closed to address public safety, maintenance or specific resource needs. G

7 New motorized trails will not be constructed in old growth unless there are no other reasonable routes. G

8 Mountain bike use is allowed on all Forest Service roads and designated trails unless closed by Forest Supervisor's order. G

9 Where appropriate, designate selected areas and trails to provide areas for hike-in hunting only. G

10 Trail density, average number of miles of trail per square mile of National Forest System lands, is shown in Table II-6. G

Table II-6. Trail Density on National Forest System Lands.

Miles of Trail per Square mile by Type of Trail.	Applicable Management Area.
Motorized:	
0-1	4.3, 4.4, 6.2, 7.1
0-2	2.1, 4.2
Nonmotorized	
0-1	4.4
0-2	4.3, 6.2
0-3	2.1, 4.2, 5.1, 6.1
0-6	7.1

B Operation and Maintenance

1 Maintain trails to the level appropriate for the use. G

2 All designated trails will have sufficient directional marking and will conform to the appropriate management area guidelines. G

3 Do not permit skidding of forest products along the tread of system trails. G

4 Permit skidding of forest products directly across the tread of system trails at specified locations that are at least 660 feet apart, when feasible. G

C Construction and Reconstruction

1 Relocate system trails to address safety, resource or management concerns. G

D Off-Highway Vehicles, Including Snowmobiles

1 Restrict Off-Highway Vehicle travel, including, snowmobiles, to designated trails or areas unless otherwise provided for by law, regulation or by special area management objectives. **G**

2 Where possible, do not construct motorized trails within 660 feet of any seasonal or permanent residence. **G**

3 Where possible, motorized vehicle trails will be located a minimum of 1,000 feet from rivers, streams and lakes except at designated crossings. **G**

4 Do not permit motorized vehicles in essential habitats for endangered, threatened and sensitive species. **G**

5 Restrict snowmobile travel to designated trails or open unplowed roads unless otherwise prohibited by law, regulation or special management area objectives, such as deer wintering areas or threatened, endangered or sensitive species habitat. **G**

6 Except for administrative purposes, do not allow motorized vehicles on horse, hiking or ski trails. **G**

7 Special Off-Highway Vehicle events must have prearranged schedules and be covered under permit from all governmental units having specific jurisdictions. **S**

8 Vehicles used on motorized trails may not be more than 50 inches wide, except for administrative use. **G**

9 Do not permit motorized trails crossing frozen lakes or streams. **S**

10 Relocate or abandon snowmobile trails on roads when concurrence cannot be obtained from local road authorities to eliminate snowplowing. **G**

IX Heritage Resources

A Identification, Evaluation, and Management

1 Conduct heritage resource activities to meet current national guidance, professional and Forest standards and Michigan State Historic Preservation Office agreements. **S**

2 Administer issues relating to human remains, funerary objects, sacred objects or objects of cultural patrimony in accordance with Native American Graves Protection and Repatriation Act requirements. **S**

3 Conduct structural and non-structural stabilization, rehabilitation, restoration and maintenance of heritage properties in accordance with Forest-level heritage protection and management plans in consultation with appropriate state and tribal authorities, the Advisory Council on Historic **G**

Preservation and other interested parties and in accordance with the Secretary of the Interior's Standards and Guidelines for Historic Preservation.

4 Evaluate properties against the National Register of Historic Places significance criteria and/or other criteria provided by State Historic Preservation Office agreement. Eligible properties may be nominated to the National Register of Historic Places. **s**

B Interpretation

1 Interpretive programs will explain areas of special significance in a way designed to protect the area while informing the public of its value and relationship to other resources. **G**

X The North Country National Scenic Trail Standards and Guidelines

A Management of the North Country National Scenic Trail will be consistent with the National Trail Systems Act, the "North Country National Scenic Trail Comprehensive Plan for Management and Use" (USDI-National Park Service 9/1982, as amended and/or updated) and the Memorandum of Understanding between the USDI-National Park Service, the USDA-Forest Service and the North Country Trail Association. **s**

B Management of the North Country National Scenic Trail will be in accordance with pertinent requirements and management policies such as the Huron-Manistee National Forests' North Country National Scenic Trail Implementation Guide. **s**

C Minerals, Oil and Gas

1 Federal oil and gas leases will contain a no-surface-occupancy stipulation for areas within 300 feet, measured at a perpendicular, from each side of the North Country National Scenic Trail. **s**

2 For reserved or outstanding mineral rights, where reasonable and in cooperation with the mineral owner, surface occupancy will not be permitted within 300 feet, measured at a perpendicular, from each side of the North Country National Scenic Trail. **s**

D The North Country National Scenic Trail is closed to motorized use. **s**

E Possessing or using saddle, pack or draft horses is prohibited. Llamas are allowed on the trail. **s**

F The scenic integrity level within the foreground distance zone of the North Country National Scenic Trail will not be lower than Moderate. **s**

G The North Country National Scenic Trail is designed, managed and maintained primarily for hiking and backpacking. **G**

H Vegetation management activities shall enhance and maintain the natural ecological processes along the trail and **G**

to the extent practicable limit road construction, timber harvesting and mechanized reforestation site preparation practices to periods of time throughout the year when conflict with trail users will be minimized.

I All special use activities will be reviewed and monitored to ensure consistency with the management objectives for the North Country National Scenic Trail. G

XI Federal oil and gas leases will contain a no surface occupancy stipulation for areas within developed recreation sites. G

XII Visual Management

A All management activities should meet or exceed the Scenic Integrity Objectives established for the Forests through Scenery Management System outlined in "Agriculture Handbook 701, Landscape Aesthetics - A Handbook for Scenery Management." G

B Assigned Scenic Integrity Objectives for the Forests are shown in Tables II-7 and II-8. G

Table II-7. Sensitivity Level by Scenic Class by Management Area.

Scenic Class	Management Area 2.1	Management Area 4.2	Management Area 4.3	Management Area 4.4
1	High	High	High	High
2	High	Moderate	High	Moderate
3	Moderate	Low	Moderate	Low
4	Low	Low	Low	Low
5	Low	Low	Low	Low
6	Low	Low	Low	Low
7	Low	Low	Low	Low

Table II-8. Assigned Scenic Integrity Objectives.

Management Area	Scenic Integrity Objective
5.1 Wilderness	Very High
6.1 Semiprimitive Nonmotorized	High
6.2 Semiprimitive Motorized	Moderate
7.1 Developed Recreation Sites	High
8.1 Wild and Scenic Rivers	High
8.2 Research Natural Areas	1/
8.3 Experimental Forests	2/
8.4 Special Areas.	High
9.1 Candidate Research Natural Areas	Very High
9.2 Study Wild and Scenic Rivers	High
1/ Determined by establishment record for the Research Natural Area. 2/ Managed the same as the management area it would be if it were not an Experimental Forest. Projects submitted to North Central Research Station for approval.	

2400 TIMBER MANAGEMENT (Note: See 1900, Vegetation Management for additional Standards and Guidelines)

I The following Standards and Guidelines apply to both even- and uneven-aged silvicultural systems.

A Uneven- and even-aged systems will be used. They will be consistent with management area objectives and the following restrictions:

1 Utilization standards for all timber sold or disposed of should conform to the tabulation below. A tree must contain at least one piece and meet the minimum standards found in the Forest Service Manual. G

2 Activity Fuel (Slash) Disposal (Note: See 2300, Visual Management for additional Standards and Guidelines)

a At a minimum, remove activity fuels or treat them to lie within 24 inches of the ground in areas within 25 feet of private land. G

b Build and disperse brush piles of activity fuels for wildlife purposes considering visual and fire management needs. G

c Table II-9 provides guidelines for activity fuel treatment concurrent with timber cutting immediately following this activity, or within one or two years after the management activity took place (Time of Treatment Column). Additional activity fuel treatment may be required for other resource needs. Treatment may vary depending on the "seen area," area seen by humans, which is influenced by topography, vegetative screening and time of treatment. G

Table II-9. Activity Fuel (Slash) Treatment Guidelines for Aesthetics [1/].

Areas	Distance from Travelways (Feet)	Maximum Height of Activity Fuel (Inches)	Time of Treatment
High Integrity Level 1 [2/]			
Conifer	200	12	Within 1 year
Hardwood	200	12	Within 1 year
Moderate Integrity Level [2/]			
Conifer	200	18	Within 1 year
Hardwood	200	18	Within 1 year
Low Integrity Level [2/]			
Jack Pine Only	200	18	Within 2 years

[1/] Seen area is a key component of the visual system. The activity fuel treatment chart provides guidelines for treatment distance from travelways, maximum height of activity fuels and time of treatment, and are based on a "typical" area seen by humans. Effects of topographic or vegetative screening upon treatment distance and fuel height and timeliness of treatment may result in achieving the desired Integrity Level with less intensive treatment.
[2/] See Appendix F-Glossary for definition.

II The following rotation ages, Table II-10, apply only to the even-aged silvicultural systems. Temporary openings will be created by the application of even-aged silvicultural systems. These guidelines will apply to determining culmination of mean annual increment. Exception to these guidelines may occur to meet other resource management objectives. G

Table II-10. Rotation Age Guidelines.

Species	Rotation Age (Years)	
	Range	Expected
Jack pine	40-60	50
Red and white pine	70-120	100
Oak (low-site index -less than or equal to 55)	50-80	60
Oak (high-site index-greater than 55)	70-120	100
Aspen	40-60	50
Northern hardwood	70-120	100
Lowland hardwood	70-120	100
Lowland conifer	100-200	200

2500 WATERSHED MANAGEMENT

I Water

A Guidelines for Management Activities

1 Riparian Vegetation Management

a If natural disturbance processes are not providing adequate habitat within the Streamside Management Zone for threatened, endangered, sensitive and other species with viability concerns, active management for early successional habitat may be implemented on a case-by-case basis. G

b Vegetation management within Streamside Management Zones will be consistent with the State of Michigan's Best Management Practices and the following specifications to protect water quality: G

1 Minimum Streamside Management Zone width should be 100 feet from each side of the stream or lake shore. Width should be increased with increases in slope percent as illustrated in Table II-11. G

Table II-11. Streamside Management Zones.

Slope of Land Above Water Body or Stream (Percent)	Minimum Width of Streamside Management Zone (Feet)
0-10	100
10-20	115
20-30	135
30-40	155
40-50	175
Greater than 50	200 - Activity may not be advisable due to erosion potential. Extreme care must be taken to prevent movement of soil.

2 In stream channels deficient of wood, placement of trees is a preferred method to fixed structures. Bioengineering is the preferred approach for all restoration projects and should be used where feasible. G

3 The source of trees used for aquatic large wood restoration will be, where practical, from outside old-growth areas unless removal will maintain or restore the old growth characteristics of the site. Preference will be given to sites where removal of some trees will accelerate movement towards potential old-growth characteristics, such as thinning of conifer plantations and restoration of old-growth barrens or savannahs. G

4 Minimize mechanical disturbance of the forest floor in Streamside Management Zones. G

5 Equipment may be used within the Streamside Management Zone. However, equipment should not be operated within the Streamside Management Zone when soils are saturated or when rutting is likely to occur. G

6 Temporary access routes for equipment use within the Streamside Management Zone should be obliterated, stabilized and restored to natural conditions immediately by using native vegetation appropriate to ecological landtype phases. Site G

scarification will take place prior to revegetation if compaction has occurred.

c Shade strips should be used to keep temperatures of surface waters within the habitat range for aquatic species of concern. Shade strip widths should vary according to vegetation, landform and stream conditions. Retain shade strips along the east, west and south aspects of perennial streams unless analysis of site and water conditions demonstrate that the aquatic species of concern would not be adversely affected. **G**

d Where streamside trees are to be removed: **G**

1 Leave as much understory and ground cover as possible. **G**

2 Use areas that provide natural topographic shading. **G**

3 Do not drag logs from or across a stream. **G**

e Vegetation adjacent to wetlands and bogs within sandy outwash plains may be managed for early successional habitat where it emulates natural disturbance processes. **G**

2 A determination of coastal zone consistency will be completed for all activities occurring within one-quarter mile from the Great Lakes high water mark. **S**

3 Oil and gas development

a Federal oil and gas leases will contain a no-surface-occupancy stipulation for areas within 300 feet, measured at a perpendicular, from the normal high water mark of any river, stream or lake. **G**

b For reserved or outstanding mineral rights, where reasonable and in cooperation with the mineral owner, no surface occupancy will be permitted within 300 feet, measured at a perpendicular, from the normal high water mark of any river, stream or lake. **G**

c Federal oil and gas leases will contain a no-surface-occupancy stipulation for wetlands. **G**

d Surface disturbance will be limited to that necessary for reasonable, safe and prudent extraction of the oil and gas. Measures will be implemented to minimize erosion and sedimentation. **G**

e Road and pipeline systems will be planned to **G**

eliminate stream crossings whenever practical.

4 Aquatic Restoration

a Aquatic habitat restoration will consider the needs of all riparian-dependent species. Restoration measures may include, but are not limited to, large wood placement, streambank stabilization gravel and cobble placement for spawning habitat and fine sediment removal. **G**

b Natural, in-stream or added wood–trees, shall be left undisturbed unless it constitutes a navigational hazard. If watercraft cannot go over, under or around wood, it constitutes a navigational hazard and may be cut only to the extent necessary for navigation. **G**

5 Sediment Removal

a Sediment basins, both within the stream or, where appropriate, in the adjacent floodplain, may be used. This guideline does not apply in management areas 5.1, 8.2 and 9.1. **G**

b Sediment basins may only be used where the potential for downstream recovery exists, such as gravel and cobble substrates located in higher gradient reaches. This guideline does not apply in management areas 5.1, 8.2 and 9.1. **G**

c Disposal of sediment basin spoils will be done in a way to ensure that characteristics or hydrological and ecological functions of riparian areas or adjacent upland areas are not compromised: Dispose of sediment basin spoils outside floodplain. This guideline does not apply in management areas 5.1, 8.2 and 9.1. **G**

6 Water Quality - Monitor water quality for baseline conditions and when soil-disturbing activities occur in riparian areas. Do not permit management practices which seriously or adversely affect water conditions–surface and groundwater, or fish habitat. These include, but are not limited to detrimental changes in water temperature or chemical composition, blockages of water flow paths, and deposits of sediment. Streamside Management Zones, sediment basins and/or other management practices will be used to protect riparian areas from sedimentation. **G**

7 Forest Management:

a Forest management activities will not degrade long-term stream water quality **S**

below state standards.

b Forest management activities will not increase the trophic levels of lakes. G

c Apply management practices that will not significantly accelerate the aging or eutrophication of any lake or stream. Designated walleye fish rearing ponds, however, may be limed and/or fertilized as needed. G

8 Design management activities adjacent to lakes, streams and wetlands to maintain streambank and shoreline stability and riparian integrity. G

9 Rehabilitate and revegetate disturbed areas promptly after projects or project segments, in the case of large projects, are completed. G

10 Construct and rehabilitate structures and facilities to preserve the beneficial values of floodplains and wetlands, protect public safety, and be cost efficient. G

II Soil

A No vegetative manipulation or utilization practices shall cause average annual soil loss to exceed Natural Resource Conservation Service T-Values, T=soil loss tolerance factor. G

B Use rehabilitation measures for management activities that mechanically displace or move soil, so that the productivity of the land is not adversely affected. G

C All projects will be in accordance with the site's ability to sustain soil productivity. S

D Control measures to mitigate erosion, and disturbances due to management activities, will be commensurate with the soil characteristics, expected use and management objectives of the area. Fertilization may be used in erosion control projects. G

E Management activities are allowed in wetland areas when they will not cause a detrimental change to the soil characteristics or hydrologic function of the wetland area. G

F Restore disturbed areas to meet the objectives of the management areas. G

1 Water bodies may be created when surface runoff and soil conditions permit. G

2 Areas of exposed mineral soil will be restored and revegetated within two years after operations cease. G

3 Slopes, not to exceed 30 percent, will be graded to a smooth contour fitting the lay and contour of the land. G

4 If topsoil is not saved, a minimum 1 inch topsoil over 75 percent of the area and one-half inch over 100 percent of the area will be applied upon final rehabilitation. G

5 Lime, fertilizer, seed mixture and mulch will be G

applied as prescribed.

G Management activities within Streamside Management Zones will limit soil, nutrient and pesticide movement into aquatic ecosystems. **G**

H Construct all roads, skid trails and landing areas outside Streamside Management Zones unless mitigative practices are used. This guideline does not apply in management areas 5.1, 8.2 and 9.1. **G**

I Skidding and other treatments of Streamside Management Zones will not result in: **G**

1 Exposing more than 5 percent of mineral soils. **G**

2 Any ruts more than 10 inches deep or any continuous ruts that concentrate flowing water. **G**

3 Increased mass movement of streambanks or lakeshores. **G**

4 Increased slash within aquatic ecosystems. **G**

5 Significant increase in fine inorganic material on streambottoms. Significance will vary depending on existing streambottom conditions and management objectives for the stream. **G**

2600 WILDLIFE, FISH AND SENSITIVE PLANT HABITAT MANAGEMENT

I General Management

A Globally rare communities will be protected. **G**

B Sparta soils series on the Manistee National Forest should be managed as prairies. **G**

C Forested

1 Snags, den trees, mast trees and down wood:

a Provide snags, den trees, mast trees and down wood to meet requirements of indicator species and to maintain viable vertebrate populations. Table II-12 displays numbers of snags, den trees, mast trees and down wood as per acre minimums and minimum size objectives. Size objectives are minimums, and the largest diameter trees practical should be used. These do not apply to management areas 5.1, 8.2, 8.4 and 9.1. **G**

b In regeneration harvests, leave den and mast trees in clumps, if available. **G**

Table II-12. Wildlife Structure Prescriptions by Vegetative Treatment for All Management Areas Except 5.1, 8.2, 8.4 and 9.1.

Structural Component	Regeneration Harvest		Intermediate Harvest		Uneven-age Harvest		Savannah/Barren Creation			
							Deciduous		Coniferous	
	Number 1/	DBH 2/	Number	DBH	Number	DBH	Number	DBH	Number	DBH
Snags	9	9	9	9	9	9	10	9	10	9
Mast/ Den Trees	4		4		4		2		2 per 5 acres	
Down Wood	3	10	3	10	6	10	3	10	3	10

1/ Numbers are per acre minimums.
2/ DBH = Diameter at Breast Height (See Appendix F-Glossary). Minimum size objectives are displayed. The largest diameter trees practical should be used.

II Endangered and Threatened Species and Their Management (Species not addressed here are covered in individual management area sections in Chapter III)

A Federally endangered, threatened and proposed species management will take precedent over old growth goals; objectives and Standards and Guidelines. G

B Sensitive species management will take precedent over old growth goals; objectives and Standards and Guidelines only when there are no other opportunities to provide for the needs of these species elsewhere. G

C Indiana Bat (applies in all management areas within designated Indiana bat habitat except 5.1, 8.2, and 9.1, unless otherwise noted).

1 Appropriate protection measures for site-specific projects will be developed during biological evaluations. Exceptions to the project-specific measures include: G

a Allow initial thinning treatments in fully or over-stocked red pine plantations. G

b Allow salvage harvest of small areas, less than 5 acres, of red pine. G

c Allow removal of trees that pose a safety hazard in recreation, trails, special use, administrative sites and road rights-of-way that are not presently being used by Indiana bats. If a bat is present, consultation will occur with the U.S. Fish and Wildlife Service. G

d Allow removal of trees less than six inches diameter at breast height. G

e Allow removal of trees in areas surveyed for bats with U.S. Fish and Wildlife Service approved survey techniques where no bats or suitable habitat were found. G

2 Where vegetation management occurs, an average of nine high quality summer roost trees–snags or live trees greater than nine inches diameter at breast height, G

per acre will be maintained within the treated acres. Leave trees 16 inches diameter at breast height or greater, where available. If not available, leave trees 9 to 16 inches diameter at breast height. If necessary, leave trees 3 to 9 inches diameter at breast height. When selecting roost trees, emphasize the applicable selection criteria below:

a As many standing snags greater than three inches diameter at breast height as practical within regeneration and timber management units. Retain live trees around larger snags to provide protection from wind throw; give preference to retaining oaks and hickories; if individual trees are a health or safety concern, consider grouping them or protect zones around them.

1 Give preference to larger snags; retain all snags greater than 16 inches diameter at breast height. G

2 Snags should be retained regardless of species. G

3 Ensure that care is taken during site preparation, seeding, etc., to avoid damage or loss of retained snags. G

b Standing live trees greater than three inches diameter at breast height, with greater than 25 percent exfoliating bark, regardless of species. G

c Hollow, den and cavity trees greater than nine inches diameter at breast height as practical, regardless of species. G

d Shagbark and bitternut hickories, regardless of size, and regardless of whether dead or alive, if available. G

e When few snags are available or cannot be left, leave at least nine of the largest live trees on site, preferably greater than 26 inches diameter at breast height, in the Class I Category–oaks and hickories; other desirable species include eastern cottonwood, green and white ash and American and slippery elm. G

f Leave seed trees uncut in seed-tree harvest areas, particularly in areas of oaks and hickories. Retain the largest trees as seed trees in order to ensure a component of large, over-mature trees. G

g In individual and group selection harvests: G

1 Ensure that a component of large, G

over-mature trees remains to provide suitable roosting habitat -- retaining at least three live trees per acre greater than 20 inches diameter at breast height.

2 If there are no trees greater than 20 inches diameter at breast height, retain 16 of the largest available trees per acre. G

3 When available, trees left should be Class I type trees–oaks and hickories; other desirable species include eastern cottonwood, green and white ash and American and slippery elm. G

h Regeneration units will be designed with irregular borders to provide edges for solar exposure of roost sites, interspersion of roosting and foraging habitat and travel corridors. G

3 Prohibit removal of standing dead trees for firewood between May 1 and August 31. The Forest will annually update the firewood cutting maps to identify areas that are off limits. S

a Within the five-mile radius around Tippy Dam–Tippy Management Zone, firewood permits will be prohibited. S

4 Generally, prescribed burns are prohibited within designated Indiana bat habitat between May 1 and August 31 (applies in all management areas). G

5 Prescribed burns and vegetation management in the five-mile radius around Tippy Dam–Tippy Management Zone, are to be conducted, as feasible and prudent, outside the spring staging period from May 1 to June 15, and the fall swarming period from September 1 to October 20. G

6 In optimal summer maternity habitat, conduct vegetation management and prescribed fire, as feasible and prudent, outside summer maternity period from May 1 to August 31. G

7 In optimal summer maternity habitat, individual projects may proceed during the summer maternity period if surveyed for Indiana bats, according to protocols established by the U.S. Fish and Wildlife Service, prior to project implementation. S

a If a reproductive female Indiana bat is found, postpone project activities that may affect Indiana bats until outside of the summer maternity period. S

b If no Indiana bats or only male bats or non- S

reproductive female bats are found, the project may proceed using the established conservation measures and operating procedures committed to in the biological assessment. Mist netting results are valid for a three-year period only. If a project has not been completed within this time frame, a new survey will be required.

8 Protection zones will be established around maternity colonies where discovered. **s**

9 Upland water sources will be provided for the Indiana bat by:

a Developing water holes in wildlife openings along the forest edge. **s**

b Utilize maintenance level 1 and decommissioned roads to provide upland water sources, where feasible. **s**

c Designing road construction and reconstruction projects to include small waterholes adjacent to the road, where feasible. **s**

D Bald Eagle

1 Implement the Bald Eagle Management Plan for the Huron-Manistee National Forests (USDA-Forest Service 2006, or current version). **s**

2 Federal oil and gas leases will contain a no-surface-occupancy stipulation for areas within 1,320 feet of a bald eagle's nest. **G**

3 Bald eagle territories will be closed to public entry during the breeding season, where necessary. **G**

E Kirtland's Warbler

1 See 2600, Management Indicator Species and Chapter III, Management Area 4.2, for Standards and Guidelines. **G**

F Great Lakes Piping Plover and Critical Habitat

1 See Chapter III, Management Areas 4.2, 4.3, 5.1 and 8.2 for Standards and Guidelines. **G**

G Karner Blue Butterfly

1 Implement the Karner Blue Butterfly Recovery Plan (USDI-Fish and Wildlife Service 2003b, or current version). **s**

2 Resource management activities, such as road and trail construction and vegetation management, will be designed to protect and improve potential Karner blue butterfly habitat. **G**

3 Roads and trails may be relocated or decommissioned, as deemed necessary, to protect wild lupine. **G**

4 The following applies to unoccupied potential habitat:

a Conduct pre-activity surveys to determine presence/absence of the species. If the **s**

species is found, the Forests will follow the Standards and Guidelines for occupied habitat.

5 The following applies to occupied habitat areas:

a Conduct pre-activity surveys. G

b Use woodland strips or brush piles along trails and roads to prohibit Off-Highway Vehicle use. G

c Direct camping to areas outside occupied habitat. G

d Camping will be prohibited in occupied areas where posted. S

e Oil and gas development will contain a no-surface-occupancy stipulation and will exclude road building. S

f The application and use of herbicides or pesticides is prohibited adjacent to occupied Karner blue butterfly habitat between April 1 and August 15, unless the following conditions are met: S

1 The wind is not blowing toward the habitat and there is a minimum buffer of 100 feet between the habitat and the treatment area. S

g Maintain or restore occupied Karner blue butterfly sites by:

1 Providing savannah-like conditions with 25 to 50 percent crown closure, or openings with an abundance of wild lupine. G

2 Maintaining savannah-like conditions by removing woody encroachment. G

3 Provide dispersal corridors in order to facilitate dispersal between occupied and unoccupied areas–suitable habitat sites. G

4 Prohibiting the cutting of trees between March 15 and August 15. Cutting is restricted to a four-year frequency. Allow cutting of trees that pose a safety hazard. G

5 Locating logging roads, skid trails and log yards to avoid or minimize impact to the habitat. G

6 Cutting trees with equipment such as chainsaws is preferred. Other mechanized tree cutting equipment may be allowed by exception. G

7 Piling slash not to exceed 20 percent G

of an area, burning slash piles during the winter and avoiding piling slash in areas containing concentrations of wild lupine.

8 Mowing and/or brush hogging activities are prohibited between March 15 and August 15. G

a Divide areas into at least two units, each of which supports lupine and nectar sources. At least one unit will remain untreated each season unless there is a colonization source within one-fourth mile that has the capability to recolonize this area. G

b Leave cut vegetation on site that may contain eggs, unless the cut vegetation is collected and placed in another suitable habitat site. G

h Prescribed burning will be conducted by:

1 Dividing sites into at least three burn units based on numbers of butterflies and burn no more than one-third of any site in any one year. If there are less than 10 individual butterflies during the first flight survey, then the entire site can be burned. G

2 Keeping unburned occupied patches within one-fourth mile of burned patches to aid recolonization. G

3 Designing burn areas with irregular shapes and small-scale unburned vegetation–skips. G

4 Having an approximate four-year burning frequency. G

i Site scarification will be conducted by:

1 Exposing mineral soil to aid seeding of native nectar plants. G

2 Leaving 25 to 50 percent of the occupied area undisturbed. G

3 Protecting concentrations of wild lupine or other nectar plants. G

4 Treating areas will be prohibited between March 15 and August 15 and G

on a four-year frequency.

j Propagating nectar plants by using seeds with a locally based genotype when possible. If collected from the site, limit the collection to no more than 25 percent of available seeds and collect after July 1. G

H Pitcher's Thistle

1 Prohibit new resource development and mining in occupied Pitcher's thistle habitat. G

2 Prohibit surface occupancy within 300 feet of Lake Michigan, except for reserved and outstanding mineral rights. G

3 Herbicide use will occur only when other methods of control for specific non-native invasive plant species are ineffective or cost-prohibitive. G

4 Prohibit dune stabilization activities in Pitcher's thistle habitat. S

5 Roads into Pitcher's thistle habitat on National Forest System lands will be closed when appropriate. G

6 Limit the use of prescribed burning in dune habitat where Pitcher's thistle occurs. G

7 Limit foot traffic within specific areas of the dune ecosystem where Pitcher's thistle occurs. G

III Regional Forester Sensitive Species (See the individual management areas in Chapter III for other Regional Forester Sensitive Species).

A Common Loon

1 Manage lakes with known loon populations to provide high quality nest areas and forage base with consistent water levels during the nesting season. Use artificial nesting rafts where appropriate. G

2 To protect nesting loons, use closure orders during the breeding period where human disturbance is a concern. Prohibit motorized watercraft or create no-wake-areas where appropriate. G

3 New developments will consider impacts on loons and should be placed one-fourth mile or more from nest sites on lakes with known loon populations. G

4 On lakes with known loon populations, manage or remove species that compete with loons, such as mute swans, within existing authority and with cooperating agencies, where needed. G

5 Fisheries management activities on lakes with known loon populations should ensure that loons are not harmed, caught or captured. G

B Eastern Massasauga Rattlesnake

1 Implement the Management Recommendations G

for the Eastern Massasauga Rattlesnake on the Huron-Manistee National Forests (USDA-Forest Service 2004, or current version).

C Northern Goshawk and Red-Shouldered Hawk

1 Implement the Management Recommendations for the Northern Goshawk on the Huron-Manistee National Forests (USDA-Forest Service1993, or current version). **G**

D American Marten

1 Consider the American Marten Conservation Strategy for the Huron-Manistee National Forests (USDA-Forest Service 1996a, or current version). This Guideline does not apply in management areas 5.1, 8.2 and 9.1. **G**

E Other

1 Where appropriate maintain or create small openings, less than one acre, in stands with known occurrences of ternate grapefern (*Botrychium rugulosum*) and maintain a protection zone of 66 feet with no mechanical equipment use and minimal soil disturbance around all known occurrences of ternate grapefern. Hand cutting is permitted. **G**

2 Prohibit commercial or recreational harvesting of American ginseng. **S**

3 In rare wetland communities where fire is a known disturbance, prescribed fire should be used to maintain these communities when feasible. **G**

4 Timber harvesting in cedar swamps is excluded except for limited salvage of non-living trees after a catastrophic event, and single-tree, special products gathering administered under permit. **G**

5 Except in management area 5.1, maintain hardwood and hardwood/conifer swamps according to the following: **G**

a Minimize disturbance of the forest floor in swamps. **G**

b Equipment may be used within swamps and sub-irrigated forests. However, equipment should not be operated within these areas when soils are saturated or when rutting is likely to occur. **G**

c Temporary access routes within swamps or sub-irrigated forests should be obliterated, stabilized and restored to natural conditions immediately by using native vegetation appropriate to ecological land type phases. **G**

d Manage swamps and sub-irrigated forests **G**

with practices consistent with resource conditions and protect hydrologic function.

6 Swales in oak and pine forests will be identified through project level surveys and protection measures developed through project-level analysis. G

7 Maintain a minimum of 60 percent canopy cover and do not allow mechanical disturbance within three tree-lengths of known occurrences of northern wild comfrey (*Cynoglossum boreale*). This does not apply to Management Area 5.1. G

a Prescribed fire that does not reduce the overstory is allowed before the emergence of the plant's flowering stalk in the spring or after fruit dispersal in the fall. G

8 Management treatments in wet meadows with known occurrences of yellow nodding ladies-tresses (*Spiranthes ochroleuca*) should not affect soil moisture or soil structure within 66 feet of the known populations. If it is necessary to conduct maintenance activities to keep the community in a meadow state, treatment should be done using hand cutting or other non-soil disturbing management techniques. This does not apply to management area 5.1. G

9 Do not allow mechanical disturbance within 200 feet of known occurrences of pine drops (*Pterospora andromedea*). G

IV Management Indicator Species

A Bald Eagle

1 Habitat and Population Objectives: Habitat and population objectives are in accordance with the Northern States Bald Eagle Recovery Plan and the Bald Eagle Management Plan, Huron-Manistee National Forests. Habitat objectives include the protection of essential habitat, protection from environmental contamination and habitat acquisition. G

2 Conservation Activities: In accordance with the Bald Eagle Management Plan, conservation activities include: 1) protection of nesting territories; 2) developing management plans for each nesting territory; 3) protection of potential nesting territories/ and 4) protection of feeding, roosting and wintering areas. G

3 Monitoring: The population trend of the bald eagle will be monitored annually to determine the status and productivity of breeding areas. G

4 Evaluation of Monitoring Results: Monitoring information will be evaluated every one to five years.

B Karner Blue Butterfly

1 Habitat and Population Objectives: Habitat and population objectives follow recommendations of the Karner Blue Butterfly Recovery Plan (USDI-Fish and Wildlife Service 2003b, or as updated). Three large viable populations–6,000 butterflies, and one viable population 3,000 butterflies, will be established and maintained on the Manistee National Forest. As such, 20,300 acres of barrens habitat will be developed and maintained in the four metapopulation areas and the essential Karner blue butterfly barren habitat on the Manistee National Forest. Information detailing locations and specific habitat requirements associated with Karner blue butterfly essential habitat can be found in the Biological Assessment for this Forest Plan, the Karner Blue Butterfly Recovery Plan (2003 or current version), the Karner Blue Butterfly Habitat Management Strategy and the Karner Blue Butterfly Species Viability Evaluation for the Huron-Manistee National Forests (2004 or current version). **G**

2 Conservation Activities: In accordance with the Karner Blue Butterfly Recovery Plan conservation activities include: **G**

a Protect and manage the Karner blue butterfly and its habitat to perpetuate viable metapopulations;

b Evaluate and implement translocation where appropriate;

c Develop range-wide and regional management guidelines;

d Develop and implement information and education programs;

e Collect important ecological data on Karner blue butterfly and associated habitats;

f Review and track recovery progress.

3 Monitoring: The population trend of the Karner blue butterfly and its relationship to habitat changes will be monitored on an annual basis. **G**

4 Evaluation of Monitoring Results: Monitoring information will be evaluated every 1 to 5 years. **G**

C Kirtland's Warbler

1 Habitat and Population Objectives: Habitat and population objectives are in accordance with the Kirtland's Warbler Recovery Plan (USDI-Fish and Wildlife Service 1985) and Strategy for Kirtland's Warbler Habitat Management (USDA-Forest Service 2001). **G**

2 Conservation Activities: Conservation activities are centered on: **G**

a ensuring the availability of breeding habitat;

b controlling human activity and disturbance within habitat during the breeding season; and

c reducing nest parasitism by the brown-headed cowbird.

These activities are incorporated into Chapter III, Management Area 4.2 of the Forest Plan Standards and Guidelines.

3 Monitoring: The population trend of the Kirtland's warbler and its relationship to habitat changes will be monitored on an annual basis. G

4 Evaluation of Monitoring Results: Monitoring information will be evaluated annually. G

D Ruffed Grouse

1 Habitat and Population Objectives: The Forests will maintain a minimum of 750 breeding pairs on the Huron National Forest and 1,000 breeding pairs on the Manistee National Forest. Two and one-half acres of zero to nine year old aspen adjacent to mature aspen will be maintained per breeding pair for a total of 1,875 acres on the Huron National Forest and 2,500 acres on the Manistee National Forest. G

2 Conservation Activities: Conservation activities will focus on: G

a Providing for an interspersion of young and older aged aspen stands to provide the proper combination of food and cover.

b Providing amounts of grouse habitat dispersed across the Forests.

These activities are incorporated into the Forest Plan composition objectives and rotation ages for the aspen forest type.

3 Monitoring: The population trend of the ruffed grouse and its relationship to habitat changes will be monitored on an annual basis. G

4 Evaluation of Monitoring Results: Monitoring information will be evaluated every 1 to 5 years. G

E Brook Trout

1 Habitat and Population Objectives: The Forest Plan objective for this management indicator species is to maintain an average of 40 individuals, age 1+, per acre. G

2 Conservation Activities: Stream habitat protection and restoration will be promoted through conservation practices such as maintenance of at least 34 percent of 6^{th} level watersheds in a forested state–greater than 15 years in age, sediment removal, erosion control–streambank stabilization and improvement of transportation systems, introduction of large wood for structural complexity, gravel placement for spawning habitat and the use of best management practices G

in riparian corridors and the Streamside Management Zone.

3 Monitoring: The population trend of the brook trout and its relationship to habitat change will be monitored on an annual basis. G

4 Evaluation of Monitoring Results: Monitoring information will be evaluated every one to five years. G

F Mottled Sculpin

1 Habitat and Population Objectives: The Forest Plan objective is to maintain stable populations of the mottled sculpin–no statistically significant decline in population numbers. G

2 Conservation Activities: Same as for brook trout with more emphasis placed on the measures that prevent or reduce sediment levels in streams G

3 Monitoring: The population trend of the mottled sculpin and its relationship to habitat change will be monitored on an annual basis. G

4 Evaluation of Monitoring Results: Monitoring information will be evaluated every one to five years. G

V Managed Wildlife Openings

A Do not manage wildlife openings within old growth. G

B Favor native species of vegetation. This guideline does not apply in management areas 5.1, 8.2, 8.4 and 9.1. G

C Allow chemical, mechanical and hand maintenance methods or prescribed fire. This guideline does not apply in management areas 5.1, 8.2, 8.4 and 9.1 G

VI Wetlands/Riparian Areas

A Existing spring seeps and other water areas critical to wintering wildlife will be protected. G

B Fertilizers or soil enrichments may be used. G

C Where needed to meet species viability concerns, provide shallow water emergent wetlands complexes of 250 acres or larger in Landtype Associations 2, 3, 4, 6 or 7. Manage patches 24 acres or larger which total at least 250 acres within a 640-acre area to provide this habitat. This guideline does not apply in management areas 5.1, 7.1, 8.2 and 9.1. G

D Manage early successional shrub/scrub habitats in patches 25 acres or larger within wetland/riparian areas on each Forest where the need to meet species viability has been determined on a case-by-case basis. Areas to be managed for early successional shrub/scrub habitat would be within areas where these vegetation types exist or existed but are succeeding to later seral stages and the need for meeting species viability is identified and analyzed. This guideline does not apply in management areas 5.1, 7.1, 8.2 and 9.1. G

VII Other Species
- A Protect special habitats such as heron rookeries and raptor nests where they occur. G
- B Black-backed woodpecker habitat should be: G
  - 1 Fire-killed trees greater than 7-inch diameter at breast height less than four years post-burn. G
  - 2 Eighty acres or greater in size. G

VIII Fish
- A Vegetation canopy in and along streams will be managed to maintain water temperatures within the prescribed ranges for fisheries objectives. This guideline does not apply in management area 5.1. G
- B Do not block or prevent fish passage in streams unless prescribed by site-specific analysis. G
- C Protect state-classified trout streams. G
  - 1 Vegetation attractive to beaver would generally be discouraged within 200 feet of streams. G
- D Habitat management should minimize streambed sand loads. G

2700 SPECIAL USES MANAGEMENT

I Issue permits only for uses compatible with the area's management direction. G

II Decisions on applications for distribution systems crossing National Forest System lands will be made on an individual basis. G

III Where reasonable alternatives exist, surface-disturbing activities will take place outside of old growth. G

IV Permit those utility transmission corridors required to serve recreational or administrative facilities. Exceptions will be considered on an individual basis. G
- A Bury utility lines if technically feasible. G

V Do not allow utility lines in Management Areas 5.1, 8.2 and 9.1. G

2800 MINERALS AND GEOLOGY

I Minerals - General
- A Land management decisions will not preclude the ability of private mineral owners to make reasonable use of the surface as defined by deed and public law. (See 5400, Subsurface Ownership for additional Standards and Guidelines). S
- B Cooperate with the Bureau of Land Management and the State of Michigan to administer mineral activities on National Forest System lands. S
  - 1 Department of Agriculture consent for leasing of Federal oil and gas on specific lands will be made following review/validation of the assumptions and analysis in the Forest Plan Environmental Impact Statement, verification that there are no changed S

conditions, and documentation of compliance with 36 CFR 228.102. The Forests' leasing recommendations to the Regional Office will include Standards and Guidelines as required lease stipulations/notices.

2 Federal oil and gas leases will contain a no-surface-occupancy stipulation for administrative sites. **S**

3 The Forest Service will recommend nondevelopment for the leasing of State of Michigan oil and gas rights under National Forest System lands where federal leases would contain a no-surface-occupancy stipulation. Development will be recommended for all other areas. **G**

C The spacing of oil and gas wells is established by the Michigan Department of Environmental Quality and is determined by the reservoir characteristics and the depth of the producing formation. Unless stated otherwise in Chapter III, development density for oil and gas wells will be in accordance with the Michigan Department of Environmental Quality spacing regulations. **S**

D Producing wells shall not emit hydrogen sulfide gas to the atmosphere. Sour gas must be burned, incinerated or injected into an approved underground formation in accordance with Michigan's Oil and Gas Regulations (R324.1129, effective September 20, 1996). **S**

II Old Growth

A Where there are reasonable alternatives, surface-disturbing activities will take place outside of old growth. **G**

B For lands nominated for oil and gas leasing in old growth, the surface versus no-surface-occupancy decision will be made for each parcel prior to consenting to lease. The surface-occupancy determination will be based on the presence of reasonable access within old growth areas. **S**

III Mineral Exploration and Development

A General oil and gas development conditions:

1 Living units, trailers, etc., will not be permitted on the drilling site after drilling and completion or plugging has been completed. **S**

2 Pipelines and flowlines should be buried a minimum of three feet where practical and incorporate warning tape. **G**

3 Flowlines follow the access road where practical. **G**

4 Electric and telephone service should be buried a minimum of two feet where practical and incorporate warning tape. **G**

5 If the well is productive, facilities that will remain on site should be painted earth tone colors. **G**

6 Producing wells shall not emit hydrogen sulfide gas to the atmosphere. Sour gas must be burned, incinerated or injected into an approved underground formation in accordance with Michigan's Oil and Gas Regulations. **G**

3400 FOREST PEST MANAGEMENT

I Management practices to control forest pests will follow Integrated Pest Management guidelines, applicable laws, regulations and policy. **S**

A Pesticides may be used in vegetative management, fisheries management or to suppress insects and disease infestations when their use is cost efficient, biologically effective and environmentally acceptable. **G**

II When necessary, establish untreated zones adjacent to water bodies and other sensitive areas. The zone distance will depend on the type of pesticide proposed for use, methods of application and the environmental sensitivity of the area. Minimum distance will be 100 feet. **G**

III Use minimum pesticide dose rate and/or least persistent pesticide that will control the pest or undesired vegetation. **S**

IV Use public information procedures to notify and inform affected people of a proposed pesticide use project. Notification includes type of pesticide, target pests, application dates, method of application and necessary safety precautions. **G**

V As appropriate, post notice signs in treatment areas. **G**

5100 FIRE MANAGEMENT

I Suppression

A Use techniques that least alter the landscape and minimize disturbance to the ground where practical. **G**

B Minimize use of tractor plows, retardant, constructed helispots and wheeled vehicles within old growth areas, known heritage sites and endangered, threatened and Regional Forester's Sensitive Species areas. **G**

C Utilize existing natural and human-made barriers such as roads, trails, streams and lakes instead of constructed firelines for suppression activities where practical and safe for firefighters, the public and the values at risk. **G**

D All constructed firelines will have adequate erosion control measures implemented where necessary, such as water bars and rolling dips. **G**

E Follow Best Management Practices on fireline location in riparian areas. **G**

II Rehabilitation:

A Fire suppression activities will include rehabilitation of fire lines on National Forest system lands, roads, helispots and **G**

other disturbed areas where needed, such as steep slopes, erosive soils, and to reduce access and noxious weeds.

B Stabilize and revegetate soils disturbed by fire suppression activity by encouraging growth of existing on-site native vegetation as soon as practical. Use locally native species–genetically appropriate, or non-persistent non-native species where needed. **G**

C Burned areas will be rehabilitated where needed, except management area 5.1. **G**

D A Burned Area Emergency Rehabilitation Plan will be prepared as needed. **S**

E Follow Best Management Practices on restoration practices in riparian areas. **G**

III Fire Use and Fuels Treatment

A Follow Best Management Practices on fireline location and restoration activities. **S**

B Smoke management practices will ensure that prescribed fires will minimize adverse effects on public and firefighter health, public safety or visibility. **G**

C Mechanical fuels reduction projects are acceptable to reduce fire risk or impacts and to enhance resource objectives, except management areas 5.1, 8.2 and 9.1. **G**

D When possible, fuelbreaks will be located outside of old growth. **G**

5400 LANDOWNERSHIP

I Surface Ownership

A Land Adjustments

1 No floodplains will be exchanged away without a flood hazard risk analysis and appropriate mitigative measures where needed to protect life and property. **S**

B Land-for-Land Exchange

1 Exchange of all National Forest System lands will be coordinated with the State of Michigan, tribal governments and local units of government. There will be no land exchange in management area 5.1. **S**

II Subsurface Ownership

A When any or all of the following conditions exist, acquisition of subsurface rights will be considered: **G**

1 Conflicts between surface values and mineral activities cannot be mutually resolved.

2 The public benefits from the surface values exceed the cost of acquiring subsurface rights.

3 The cost is consistent with budget priorities.

4 Consolidation of surface and subsurface ownership to reduce resource conflicts.

7400 PUBLIC HEALTH AND POLLUTION CONTROL ACTIVITIES

I Solid Waste

A Provide sanitary facilities that meet federal and state regulations. **s**

B Dispose of refuse generated or deposited on National Forest System lands through community or area-wide facilities that meet federal regulations. **s**

C Oil and gas development

1 Sewage from the drilling sites will be disposed of through the use of sealed vault portable toilets or holding tanks and will be taken to an approved sewage treatment plant. **s**

2 Garbage from the drilling site will be disposed of in commercial dumpsters and will be taken to an approved sanitary landfill. **s**

II Water Supply

B Provide drinking water that meets federal and state regulations, and protect it to ensure its continued quality. **s**

7700 TRANSPORTATION SYSTEM

I General

A Identify Forest Service existing roads and determine those needed for administration and public use. Roads not needed will be obliterated. **G**

B All roads for oil and gas development will be located and built as designated by the Forest Service. This standard does not apply in management areas 5.1, 8.2 and 9.1. **s**

C Clearing width will be kept to the minimum necessary. **G**

D Roads to active well sites should be gated and upon abandonment will be obliterated. This guideline does not apply in management areas 5.1, 8.2 and 9.1. **G**

E Collector and local roads will be designed and constructed to transport forest products, to accommodate planned motorized recreation use, and to accommodate administrative traffic. This guideline does not apply in management areas 5.1, 8.2 and 9.1. **G**

F All signs on roads open to public travel will meet the "Manual of Uniform Traffic Control Devices." **s**

II Provisions for Facilities

A Transportation Facilities

1 Maximum average of road miles per square mile in all three road classes and average miles of roads per square mile by local, collector and arterial roads are shown in Table II-13. This does not include roads in densely developed areas such as towns, villages and residential development. **G**

Table II-13. Maximum Average Miles of Roads per Square Mile by Type and Management Area.

Average Miles of Roads	Applicable Management Area
Local Roads	
0-1	6.1
0-2	2.1, 4.2, 4.3, 4.4, 6.2
Collector Roads	
0-1	4.4
0-1	6.2
1-2	2.1, 4.2, 4.3
Arterial Roads	
0-0.7	2.1, 4.2, 4.3, 4.4, 6.2
All Roads:	
0-1	6.1
0-2	6.2
0-3	2.1, 4.2, 4.3, 4.4

2 Complete obliteration of temporary roads within one year after the need for them has ceased. This standard does not apply in management areas 5.1, 8.2 and 9.1. **S**

3 Special Restrictions for Water Quality. These guidelines do not apply in management areas 5.1, 8.2 and 9.1.

a Locate roads on low gradient terrain and well-drained soils when possible. **G**

b Generally, do not locate roads within 100 feet of a lake or stream, except for stream-crossing approaches. **G**

c Water crossings will be of a permanent nature for long-term roads. **G**

d Select locations and design water crossings where aquatic organism passage will not be restricted. **G**

e Design water crossings to minimize stream sedimentation. **G**

f Minimum culvert diameter will be 18 inches equivalent. **G**

g Provide for proper vertical and horizontal alignment of culverts. **G**

h Water crossing designs should not adversely impact the hydrologic characteristics of an area. **G**